Response to the written opinion of the International Search Authority
International Application No. PCT/JP2004/002016

In the written opinion of the international searching authority, Document D1 (US 6549840 B1, Kawabata, et al.) is referred to as an enough material by itself to destroy novelty of the subject matter of the claimed invention in accordance with claim 1. However, we respectfully submit as follows that the D1 does not disclose the claimed invention.

The claimed invention in accordance with Claim 1 contains, as part of the invention, "an electric power-mechanical power input-output unit that is linked with an output shaft of said internal combustion engine and with said drive shaft, and maintains or changes a driving state of said internal combustion engine and outputs at least part of power from said internal combustion engine to said drive shaft through inputs and outputs of electric power and mechanical power".

The electric power-mechanical power input-output unit is capable of maintaining or changing a driving state of the internal combustion engine and outputs at least part of power from the internal combustion engine to the drive shaft through inputs and outputs of electric power and mechanical power.
The electric power-mechanical power input-output unit of the invention can be actualized in the form of a combination of "a power distribution and integration mechanism 30" and "a motor MG1" described in the embodiment of the invention, or in the form of "a pair-rotor motor 230" of the modified example. Namely, the combination of the power distribution and integration mechanism 30 and the motor MG1 or the pair-rotor motor 230 functions to maintain and change the driving state of the internal combustion engine while outputting power to the drive shaft, through inputs and outputs of electric power and mechanical power.

In the written opinion of the ISR, the electric power-mechanical power

input-output unit of the claimed invention is considered to be already disclosed in D1 as "a planetary gear 18", figure 1. Though, we submit that "a planetary gear 18" in D1 does not correspond to the electric power-mechanical power input-output unit of the claimed invention.

Firstly, the planetary gear 18 referred in D1 shares function of the power distribution and integration mechanism 30 shown in fig. 1 in the embodiment of the claimed invention, but function of the motor MG1. Therefore, the planetary gear alone, which lacks means of inputting/outputting electric power and mechanical power, cannot correspond to the electric power-mechanical power input-output unit of the claimed invention which is actualized by a combination of the distribution and integration mechanism 30 and the motor MG1.

Secondly, the planetary gear 18 in D1 still cannot function as the electric power-mechanical power input-output unit in case of being used in combination with another constituent, such as "a M/G16" linked with an output shaft of an engine in D1, which compensate the lack of means of inputting/outputting electric power and mechanical power.
One of the characteristic functions of the electric power-mechanical power input-output unit of the claimed invention is to maintain and change driving state of an engine through inputs and outputs of electrical power and mechanical power. This function is not achieved by M/G16 but by "a continuously variable transmission 20" in the structure described in D1 (See Col.25 line 62 – Col.26 line 44).
The continuously variable transmission 20 functions differently from the electric power-mechanical power input-output unit of the invention, in that it maintains and changes the driving state by varying a speed ratio without inputs and outputs of electrical power and mechanical power. Furthermore, the continuously variable transmission 20 is required to be connected to the planetary gear 18 via clutches C1 and C2, in order to maintain or change the driving state. The connection via the clutches does not allow differential rotation, but forces one body rotation of rotating elements of the planetary

gear 18. In this structure described in D1, the planetary gear 18 is not designed to have effective function as itself, thus leading to the fact that a combination of the planetary gear 18 and the M/G16 of D1 cannot function as the electric power-mechanical power input-output unit of the claimed invention.

In view of the above, the applicant believes that D1 fails to disclose anything corresponding to the electric power-mechanical power input-output unit of the claimed invention.

On the other hand, the claimed invention relates to a technique for controlling an internal combustion engine, an electric power-mechanical power input-output unit, and a motor on condition that the electric power-mechanical power input-output unit is provided.

Therefore, it is clear that the claimed invention is new and inventive over D1.